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| EXAMINER |
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TRUJILLO, JAMES K

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| ART UNIT | PAPER NUMBER |
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2116

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,043

Applicant(s)

CHANDRAMOULEESWARAN ET AL.

Examiner

James K. Trujillo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,3,9,15 and 16 is/are allowed.
- 6) ☒ Claim(s) 1,4-8,10-14 and 17-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 May 2006 has been entered.
2. The office acknowledges the receipt of the following and placed of record in the file: Request for Continued Examination and Drawings dated 15 May 2006.
3. Claims 1-23 are presented for examination.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 1, 4-8, 10-14 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of "Dynamically Tunable Kernel Parameters in HP-UX 11i" an HP-UX 11i white paper from Hewlett-Packard (cited in IDS dated 5/6/2005, hereinafter, "the White Paper").
6. Regarding claim 1, AAPA teaches a method for operating a kernel of a computing apparatus comprising:

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- a. receiving, from a user of the kernel, proposed changes to a plurality of tunable parameters of tunable kernel modules (administrators wishing to change related values of tunable parameters, paragraphs 1 and 2 of the Background of the Invention; proposed changes are inherently received from the administrator);
- b. determining whether application of the changes would violate a set of constraints (carefully changing the values in order to avoid violating constraints, paragraphs 1 and 2 of the Background of the Invention); and
- c. effectuating either none or all of the changes depending upon whether the changes were determined to violate any or none of the constraints, respectively (carefully changing the values in order to avoid violating the constraints, paragraphs 1 and 2 of the Background of the Invention).

AAPA does not explicitly disclose “*automatically* determining...” as claimed [emphasis added].

The White Paper teaches a tunable parameter that is automatically tunes itself (top of page 4). The White Paper also teaches receiving from a user of a kernel proposed changes to a plurality of tunable parameters of tunable kernel modules (administrators use the SAM to change tunable values while handling all the necessary file changes and automatically reboot if required and if no reboot is required making the tunable change immediately, middle of page 4 above figure 1). This provides the advantage of requiring little user intervention for changing a tunable parameter.

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It would have been obvious to one of ordinary skill in the art, having the teachings of both AAPA and the White Paper before them at the time the invention was made, to modify AAPA such that the some steps are automatically performed.

One of ordinary skill in the art would have been motivated to make these modifications in order to provide the changes automatically.

7. Regarding claim 4, AAPA together with the White Paper taught the method according to claim 1, as described above. AAPA further teaches wherein effectuating all of the changes comprises changing the values of the plurality of tunable parameters in a predefined order (careful to change the “values” in proper order, paragraph [0003]).

8. Regarding claim 5, AAPA together with the White Paper taught the method according to claim 1 as described above. The White Paper further teaches wherein effectuating all of the changes comprises either rebooting the operating system kernel before effecting said changes or effecting said changed prior to rebooting the operating system kernel, conditioned upon whether at least one of the tunable parameters is a static tunable parameter (page 4, lines 1-15 and page 4 lines 22-25). Specifically, the White Paper teaches that there are two types of kernels, static and dynamic. The static kernel parameters require a reboot when changed and a dynamic kernel parameter does not require a reboot when changed. The White Paper that is necessary to reboot when changing a static kernel parameter. Thus, the White Paper teaches that in order to properly change a tunable kernel parameter it is necessary to reboot the operating system kernel a static tunable kernel parameter while a dynamic kernel parameter does not require a reboot.

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It would have been obvious to one of ordinary skill in the art, having the teachings of AAPA and the White Paper before them at the time the of invention, to modify the rebooting of the operating system of AAPA by implement rebooting the operating system before effecting the changes or effecting said change prior to rebooting the operating system as taught by the White Paper.

One of ordinary skill in the art would have been modified to make this modification because it is necessary in order to properly change a tunable kernel parameter and have an effect on the system.

9. Regarding claim 6, AAPA together with the White Paper taught the method according to claim 1, as described above. The White Paper further teaches comprising specifying a time at which said proposed changes are to be effectuated, and effectuating said proposed changes (page 4, lines 1-8, page 5, line 13 through page 6, line 22). The White Paper teaches when the changes take effect such as at a reboot for static tunable parameters, or immediately if it is dynamic tunable parameters.

10. Regarding claim 7, AAPA together with the White Paper taught the method according to claim 1, as described above. AAPA further teaches comprising specifying an order in which said proposed new values are to take effect, and effectuating the changes in the specified order (the administrator must be careful to follow the proper order, paragraphs 2 and 3 of the Background of the Invention).

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11. Regarding claims 8, and 10-13, AAPA together with the White Paper teaches the claimed method therefore he also the claimed computing apparatus.

12. Regarding claim 14, AAPA teaches instructing a computing apparatus having a central processing unit and a memory and a kernel to:

- a. receiving, from a user of the kernel, proposed changes to a plurality of tunable parameters of tunable kernel modules (administrators wishing to change related values of tunable parameters, paragraphs 1 and 2 of the Background of the Invention, proposed changes are inherently received from the administrator);
- b. automatically determine whether application of the changes would violate a set of constraints (carefully changing the values in order to avoid violating constraints, paragraphs 1 and 2 of the Background of the Invention); and
- c. effectuate either none or all of the changes depending upon whether the changes were determined to violate any or none of the constraints, respectively (carefully changing the values in order to avoid violating the constraints, paragraphs 1 and 2 of the Background of the Invention).

However AAPA does not expressly disclose wherein the instructing is on a medium or media having machine-readable instructions recorded thereon to perform the instructing.

AAPA also does not explicitly disclose “*automatically* determining...” as claimed [emphasis added].

The White Paper teaches a tunable parameter that is automatically tunes itself (top of page 4). The White Paper also teaches receiving from a user of a kernel proposed changes to a

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plurality of tunable parameters of tunable kernel modules (administrators use the SAM to change tunable values while handling all the necessary file changes and automatically reboot if required and if no reboot is required making the tunable change immediately, middle of page 4 above figure 1). This provides the advantage of requiring little user intervention for changing a tunable parameter.

It would have been obvious to one of ordinary skill in the art, having the teachings of both AAPA and the White Paper before them at the time the invention was made, to modify AAPA such that the some steps are automatically performed.

The White Paper further teaches wherein a medium or media having machine readable instruction recorded thereon perform instructing a computing apparatus to specify changes to a plurality of tunable kernels (writing software, which inherently requires a machine readable media, which changes tunable parameters, abstract and page 5, lines 13-17). The White Paper is in the same field of endeavor as that of AAPA in that both are directed toward changing tunable kernel parameters. By implementing software to change a plurality of tunable kernels the White Paper provides the advantage automatically implementing the changes making it easier for a user to operate the system.

It would have been obvious to one of ordinary skill in the art, having the teaching of AAPA and the White Paper before them at the time the invention was made, to modify the changing the tunable kernel modules as taught by AAPA using the media having machine-readable instruction thereon to perform the instruction as taught the White Paper.

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One of ordinary skill in the art would have been motivated to make the modification in order to provide the advantage of automatically implement the changes making it easier for a user to operate the system.

13. Regarding claims 17-20, AAPA together with the White Paper taught the claimed method therefore they also taught the claimed apparatus and media having machine-readable instructions.

14. Regarding claims 21-23, AAPA together with the White Paper taught claimed method, apparatus and medium according to claims 1, 8 and 14 respectively. AAPA further teaches wherein the determining step includes evaluating one orders by which the proposed changes can be effectuated to identify whether a valid order exists that would not violate the set of constraints; and the effectuating step uses the valid order if such is identified by the evaluating step (administrators must be careful to change the (tuneable parameters) in the proper order to avoid violating the constraints paragraph [0003]). The White Paper teaches that changes would automatically done using automatic tunables (top of page 4). It would have been obvious to one of ordinary skill in the art, having the teachings of AAPA and the White Paper before them at the time of the invention to automatically evaluate the order by which the proposed changes are effectuated in order to prevent violating constraints.

Allowable Subject Matter

15. As previously shown, claims 2-3, 9 and 15-16 are allowed.

Response to Arguments

16. Applicant's arguments see pages 12-13, filed 5/15/06, with respect to 112 rejections of claims 21-23 have been fully considered and are persuasive. The 112 rejections of claims 21-23 have been withdrawn.

17. Applicant's arguments with respect to 102 and 103 rejections filed 5/15/06 have been fully considered but they are not persuasive.

18. The applicant argues in substance that "the White Paper" does not teach or suggest wherein proposed changes are received from a user of a kernel. The examiner does not agree. As set forth in the rejections hereinabove the White Paper teaches that proposed changes are received from a user of kernel. Even if the White Paper did not teaches wherein proposed changes are received from a user of a kernel AAPA teaches wherein proposed changes are received from a user of a kernel (wherein administrators are users of a kernel).

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (571) 272-3677. The examiner can normally be reached on M-F (8:00 am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "James K. Trujillo". The signature is fluid and cursive, with the first name "James" and last name "Trujillo" clearly distinguishable.

James K. Trujillo
Patent Examiner
Technology Center 2100